Schindel discloses a thrust actuator which includes a motor 74 having a drive shaft 130 connected to a drive gear 124, which in turn is connected to planetary pinion gears 120.

Dubiel discloses a rotary tool wherein an input shaft 26, which is driven by an output shaft of motor 15, drives a sun wheel 45 and planet wheels 46. A pressure cylinder with pressure rings 37 and 40 can act on balls 36 as a clutch.

The examiner admits that Morishima et al. fail to disclose:

a) that the first stage of the reduction comprises a planetary gear,

b) that the motor shaft is configured as a sun wheel having an orbital wheel, and

c) that the overload clutch is arranged directly connected to the first stage in the reduction gear.

The examiner then turns to Schindel and states that

d) it is known to place planetary gearing at various locations in the drive train.

To substantiate such argument requires several patent publications or handbooks or manuals in mechanical engineering. A single prior publication does not support the argument.

However, Schindel does not support an argument that it is generally known to place a planetary gearing at various locations in a drive train. Schindel discloses one example of a thrust actuator having a planetary

gearing. Moreover, Schindel does not disclose a thrust actuator of a conventional design but one having a very special design, namely with a spring unit 70 incorporated between the planetary gear and the spindle. Schindel does not disclose a gear train with a planetary gear. Schindel only discloses a planetary gear. In fact, Schindel discloses the combination of a planetary gear and a spring unit 70. Schindel does not show other gears than the planetary gear and accordingly Schindel does not show that a planetary gearing can be placed at various locations in a train.

What should trigger a person of ordinary skill in the art to modify the gear train in Morishima et al. to include a planetary gear from Schindel? There is no obvious reason. Further, the person of ordinary skill in the art should also consider where to locate the planetary gear in the gear train in Morishima et al., i.e., he should first have the thought to us a planetary gear then he should have the second thought of where to locate it.

The examiner then turns to Dubiel stating that that patent discloses the use of a ball and ratchet overload clutch in connection with a planetary gear assembly. Dubiel in fact discloses a hydraulic driven rotary and not an electrically driven linear actuator.

Now, why should a person of ordinary skill in linear actuators consult a patent relating to a rotary tool to improve the construction of a

linear actuator? There is no pointers whatsoever that a rotary tool could be used to improve the construction of a linear actuator.

More specifically, Dubiel employs a overrunning clutch – reference numeral 52 in Fig. 2, column 5, line 8, column 2, line 58 slipping clutch. This overrunning clutch which is of a different type than a ball and ratchet overload clutch. The examiner refers to Figs. 2, 39, 40 as a ball ratchet clutch; however, Dubiel simply states that 39 is a pressure cylinder and 40 is apparently not mentioned in the specification. Dubiel does not use the term ball and ratchet overload clutch.

The examiner then argues that, on the basis of Dubiel, it would have been obvious to modify the actuator disclosed by the combination of Morishima et al. in view of Schindel by rearranging the ball and ratchet clutch 8 of Morishima et al. to be in direct connection with the planetary gearing. Why should a person of ordinary skill in linear actuators consider to relocate the ball and ratchet clutch?

It is indisputable that the present invention is novel over Morishima et al. and the line of argumentation that the inventor should implement a planetary gear and further that the planetary gear should be arranged with the sun wheel on the output shaft of the motor and then he should also rearrange the ball and the ratchet clutch indicates that this could not be done without exercising a certain amount of inventive skill.

There is no possible basis to conclude that the disclosures in Schindel and Dubiel are combinable with Morishima et al. to suggest the linear actuator as defined in claims 1 or 7.

As such, these claims are believed to be patentable, as are the claims dependent thereon.

Allowance of this application is requested.

Respectfully submitted,

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